CLMPTO

November 8, 2004

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Claims 1-10 are cancelled.

11. (Amended) A method to estimate the volume fraction of asphaltene aggregates, ϕ_{agg}, in incompatible petroleum oil and/or refinery process stream mixtures comprising determining difference between I_L, the low-q plateau intensity corresponding to the asphaltene particles, and I_{HS}, the intensity for perfect hard spheres in the absence of aggregation, wherein I_L, and I_{HS} are determined at different volume fractions of mixing, ϕ_m.

12. (Amended The method of claim 11 wherein the equation to estimate the volume fraction of asphaltene aggregates, ϕ_{agg}, is given by the difference between the measured valve of I_L (ϕ_m) and the I_L (ϕ_m) for perfect hard spheres in the absence of aggregation.

Claims 13-15 are cancelled.